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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,481	12/30/2004	Timo Viero	60091.00368	2846

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TYSONS CORNER, VA 22182

EXAMINER

MILLER, BRANDON J

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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07/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,481

Applicant(s)

VIERO ET AL.

Examiner

Brandon J. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-18, and 21-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Schieder et al. (US 2004/0106417 A1).

Regarding claim 1 Schieder teaches a method for signal processing in a receiver or in a transmitter of a radio system (see paragraph [0014]). Schieder teaches determining for different circuit arrangement nodes at least one operation to execute (see paragraphs [0031] & [0044]). Schieder teaches determining one or more division criteria for signal classes for dividing the signals or signal components and dividing at least one of the signal or signal components according to the one or more division criteria for signal classes (see paragraph [0026]). Schieder teaches executing the predetermined operations in the circuit arrangement nodes signal-classwise (see paragraph [0044]).

Regarding claim 2 Schieder teaches a method for signal processing in a receiver or in a transmitter of a radio system (see paragraph [0014]). Schieder teaches determining for different circuit arrangement nodes at least one operation to execute (see paragraphs [0031] & [0044]). Schieder teaches selecting a modification level from the circuit arrangement, merging the selected modification level nodes and deleting irrelevant nodes and links between the nodes

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and/or adding new links (see paragraph [0036], variable transmission rate relates to selecting modification level). Schieder teaches determining one or more division criteria for signal classes for dividing the signals or signal components and dividing at least one of the signal or signal components according to the one or more division criteria for signal classes (see paragraph [0026]). Schieder teaches executing the predetermined operations in the circuit arrangement nodes signal-classwise (see paragraph [0044]).

Regarding claim 5 Schieder teaches wherein the signals or the signal components transfer packet-form data and the signal classes are indicated in the packet header (see paragraph [0026]).

Regarding claim 6 Schieder teaches wherein the nodes perform the tasks of the radio-frequency parts or the base band parts (see paragraph [0026]).

Regarding claim 7 Schieder teaches wherein the circuit arrangement enables transfer of feedback information (see paragraph [0042]).

Regarding claim 8 Schieder teaches wherein signals to be modulated in different manners in one or more baseband nodes are divided into different signal classes (see paragraph [0026]).

Regarding claim 9 Schieder teaches wherein the data can be transmitted from the nodes to one node or a plurality of nodes (see abstract and paragraph [0016]).

Regarding claim 10 Schieder teaches wherein the network traffic load is monitored signal-classwise (see paragraph [0036]).

Regarding claim 11 Schieder teaches wherein the signal classes constitute a hierarchic signal class system, which class system comprises one or more levels (see paragraph [0044], data transmitted only during speech inactivity relates to hierarchic class system).

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Regarding claim 12 Schieder teaches wherein inter-node links have a maximum capacity, within which the number and type of the transmitted signal classes can be altered (see paragraph [0036]).

Regarding claim 13 Schieder teaches wherein the quality class is taken into account when the signal is clipped (see paragraph [0035]).

Regarding claim 14 Schieder teaches wherein the signal power is measured quality class-wise (see paragraph [0039]).

Regarding claim 15 Schieder teaches wherein the signals having different requirements for modulation accuracy are divided into different signal classes (see paragraph [0026]).

Regarding claim 16 Schieder teaches wherein the signals are divided into different signal classes after of at least one of the following: spatial, temporal or frequency level pre-processing (see paragraphs [0026] & [0029]).

Regarding claim 17 Schieder teaches wherein the signals are divided into different signal classes after interference cancellation pre-processing (see paragraph [0035], not transmitting background noise relates to interference cancellation).

Regarding claim 18 Schieder teaches a circuit arrangement for signal processing in a receiver or in a transmitter of a radio system (see paragraph [0014]). Schieder teaches circuit arrangement nodes arranged to perform at least one operation (see paragraphs [0031] & [0044]). Schieder teaches dividing at least one of the signals or signal components according to one or more predetermined division criteria for signal classes (see paragraph [0026]). Schieder teaches performing predetermined operations signal-classwise (see paragraph [0044]).

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Regarding claim 21 Schieder teaches a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 22 Schieder teaches a device as recited in claim 6 and is rejected given the same reasoning as above.

Regarding claim 23 Schieder teaches a device as recited in claim 7 and is rejected given the same reasoning as above.

Regarding claim 24 Schieder teaches a device as recited in claim 8 and is rejected given the same reasoning as above.

Regarding claim 25 Schieder teaches a device as recited in claim 9 and is rejected given the same reasoning as above.

Regarding claim 26 Schieder teaches a device as recited in claim 10 and is rejected given the same reasoning as above.

Regarding claim 27 Schieder teaches a device as recited in claim 11 and is rejected given the same reasoning as above.

Regarding claim 28 Schieder teaches a device as recited in claim 12 and is rejected given the same reasoning as above.

Regarding claim 29 Schieder teaches a device as recited in claim 13 and is rejected given the same reasoning as above.

Regarding claim 30 Schieder teaches a device as recited in claim 14 and is rejected given the same reasoning as above.

Regarding claim 31 Schieder teaches a control which controls the division into signal classes (see paragraphs [0026] & [0031]).

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Regarding claim 32 Schieder teaches a device as recited in claim 15 and is rejected given the same reasoning as above.

Regarding claim 33 Schieder teaches a device as recited in claim 16 and is rejected given the same reasoning as above.

Regarding claim 34 Schieder teaches a device as recited in claim 14 and is rejected given the same reasoning as above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schieder et al. (US 2004/0106417 A1) in view of Mizoguchi (US 6,771,633 B1).

Regarding claim 3 Schieder teaches a device as recited in claim 1 except for wherein the circuit arrangement is at least substantially in accordance with a combined tree structure such that at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner. Schieder does teach wherein the circuit arrangement wherein transmitter tasks and receiver tasks are performed (see paragraph [0030]). Schieder does teach one or more nodes of different branches connected in a predetermined manner (see paragraphs [0030] & [0034]). Mizoguchi teaches a combined tree structure with first and second

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branches connected in a predetermined manner (see col. 10, lines 48-64 and FIG. 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a circuit arrangement is at least substantially in accordance with a combined tree structure such that at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner because both references relate to systems that transmit speech and data (see Schieder, paragraph [0026] and Mizoguchi, see col. 10, lines 48-64) and the combination would allow for Schieder to achieve improved transmission and reception.

Regarding claim 4 Schieder teaches and device as recited in claim 1 except for wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs the tasks of radio-frequency parts and at least one second subtree performs the tasks of baseband parts. Schieder does teach wherein the tasks of radio-frequency parts and baseband parts are performed (see paragraphs [0026] & [0038]). Mizoguchi teaches a centralized loop with subtrees connected to the loop (see col. 10, lines 48-64 and FIG. 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs the tasks of radio-frequency parts and at least one second subtree performs the tasks of baseband parts because both references relate to systems that transmit speech and data (see Schieder, paragraph

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[0026] and Mizoguchi, see col. 10, lines 48-64) and the combination would allow for Schieder to achieve improved transmission and reception.

Regarding claim 19 Schieder and Mizoguchi teach a device as recited in claim 3 and is rejected given the same reasoning as above.

Regarding claim 20 Schieder and Mizoguchi teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 6, 13-14, 22, and 29-30, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the predetermined operations" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the predetermined operations" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the selected modification level nodes" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "merging the selected modification level nodes" in line 5. This claim limitation is indefinite for failing to particularly point out and distinctly claim the subject matter of the invention because it is unclear as to if "the selected modification level

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nodes" will be merged with other " selected modification level nodes" or with some other element.

Claim 6 recites the limitation "the baseband parts" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the quality class" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the signal power" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "the baseband parts" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "the quality class" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the signal power" in line 2. There is insufficient antecedent basis for this limitation in the claim.

The above art rejection is based upon the best possible interpretation of the claim language in view of the rejection under 35 U.S.C. 112, second paragraph

Claim Objections

Claims 1-2, 14, 18, and 30 are objected to because of the following informalities:

Claims 1-2 and 18 contain the limitation "signal-classwise". This limitation is unclear and more clarifying language is needed to adequately explain under what conditions the operations will be executed.

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Claims 14 and 30 contain the limitation "quality-classwise". This limitation is unclear and more clarifying language is needed to adequately explain under what conditions signal power will be measured.

Appropriate correction is required.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muhonen et al. U.S Patent No. 6,956,832 B1 discloses a method for delivering messages in a wireless communications system using the same protocol for all types of messages.

Jonsson et al. U.S. Patent No. 6,385,585 B1 discloses embedded data in a coded voice channel.

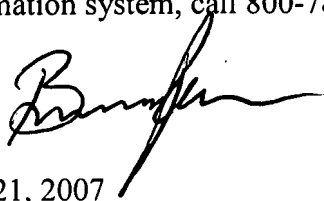
Posti Pub. No.: US 2004/0224714 A1 discloses a method for implementing service in radio system user equipment of radio system and radio system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Miller whose telephone number is 571-272-7869. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be "B. Eng", written over the date.

June 21, 2007

A handwritten signature in black ink, appearing to be "George Eng", written above the printed name.

GEORGE ENG
SUPERVISORY PATENT EXAMINER